CLAIMS:

What is claimed is:

1. A method for adjusting catalyst holdup in a circulating fluid bed reactor, comprising:

flowing vapor feed and catalyst through a reaction zone of a circulating fluid bed reactor to convert the vapor feed to a vapor product;

contacting the vapor product and the catalyst with a separation means to separate the catalyst from the product; and

adjusting the position of the separation means to increase or decrease catalyst holdup within the reaction zone while maintaining a substantially constant catalyst circulation rate through the reaction zone.

2. The method of claim 1, wherein the catalyst circulation rate is maintained to within plus or minus 25% while the position of the separation means is adjusted.

3. The method of claim 2, wherein the catalyst circulation rate is maintained to within plus or minus 15% while the position of the separation means is adjusted.

4. The method of claim 3, wherein the catalyst circulation rate is maintained to within plus or minus 10% while the position of the separation means is adjusted.

5. The method of claim 1, wherein the reaction zone is operated at a weight hourly space velocity of at least 1 hr^{-1}.

6. The method of claim 5, wherein the reaction zone is operated at a weight hourly space velocity of at least 2 hr^{-1}.

7. The method of claim 6, wherein the reaction zone is operated at a weight hourly space velocity of at least 10 hr^{-1}.

8. The method of claim 1, wherein the vapor feed and catalyst are initially contacted and flowed through the reaction zone at a catalyst to feed weight ratio of from 2:1 to 100:1.

9. The method of claim 1, wherein the flow of vapor through the reaction zone has a flow rate of 2-50 m/sec.

10. A circulating fluid bed reactor comprising:

a reaction having an inlet and outlet; and

a separation means apart from the reaction zone outlet for increasing or decreasing catalyst holdup within the reaction zone while maintaining substantially constant catalyst circulation rate through the reaction zone.

11. The reactor of claim 10, wherein the separation means is an impingement plate, and the impingement plate is coupled to a means for increasing or decreasing distance between the impingement plate and an outlet of the reaction zone.

12. The reactor of claim 11, wherein the impingement plate is concave with respect to the outlet of the reaction zone.

13. The reactor of claim 12, wherein the impingement plate is substantially flat.

14. The reactor of claim 13, wherein the impingement plate is substantially flat and has distended ends.

15. The reactor of claim 14, wherein the impingement plate has a conical contact section.

16. The reactor of claim 11, wherein the means for increasing or decreasing distance from the impingement plate and the outlet of the reaction zone is an actuator.

17. The reactor of claim 16, wherein the actuator and impingement plate are coupled together by a shaft.